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1064 U.S. PTO

**THE TECHNOLOGY LAW OFFICES OF VIRGINIA**

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*Corporate, Patent & Trademark,  
Computer & Software, Licensing &  
Joint Venture Law; Venture Capital  
Employment Law*

*James W. Hiney  
Admitted to practice in  
the District of Columbia and  
the Commonwealth of Virginia*

JOHN S. PTO  
10/086902  
03/01/02

Honorable Commissioner of Patents & Trademarks  
U. S. Patent & Trademark Office  
2011 So. Clark Place  
Crystal Plaza 2, Room 1 BO 3  
Mail Room  
Arlington, VA 22202

March 1, 2002

Re: New Continuation-In-Part for "Synfuel Composition and Method of Using Same."

Dear Sir,

Enclosed please find the following documents pertaining to the above case.

\*23 pages of specification

\*44 claims on 5 pages

\*A check for \$691.00 representing the charge ( \$216.00 ) for 24 excess total claims and the charge ( \$120.00 ) for three excess independent claims as well as the base filing fee of \$355.00.

\*Six drawing figures on 6 sheets

\*An abstract on a separate sheet.

\*An executed declaration and power of attorney by the inventor

\*A form 1449

\* Two one page reports by Combustion Resources of Provo, Utah on the additive.

The applicant is a small entity and the fees paid reflect that accordingly.

Should there be any questions concerning the case please contact the undersigned, the attorney of record.

Respectfully submitted,

James W. Hiney, Esq.  
Reg. No. 24, 705

**Certification of Mailing**

I, James W. Hiney, do hereby certify that an executed copy of this letter, together  
With all the enclosures listed above, was deposited, Express Mail prepaid, with the  
United States Postal Service, this 1<sup>st</sup> day of March, 2002, addressed as noted above, and  
Having Express Mail No. ET807981619 US

James W. Hiney

## Combustion Resources LLC

1453 West 820 North  
Provo, UT 84601  
*Consultants in Fuels, Combustion and the Environment*

Mr. Robert S. Vogt  
Power Fuel Partners  
MESI Fuel Station #1 LLC  
1150 West 8<sup>th</sup> Street Suite 270  
Cincinnati, OH 45203  
(513) 721-2009

February 6, 2002

Dear Mr. Vogt:

At your request we have completed analytical testing on samples of parent coal, J-316 chemical change agent, and synthetic fuel product from KWT, Test #020125-1, dated January 25, 2002 for the purpose of identifying significant chemical changes in the product relative to the feed materials. The fuel product was made by combining 0.25% J-316 agent with the parent coal. Portions of the parent coal, chemical agent, and fuel product were examined using Fourier transformed infrared (FTIR) analysis, thermo-gravimetric analysis (TGA), ASTM proximate analysis, and heating value determination. Comparison of analysis results of the product sample and a simple mass-weighted mixture of the parent ingredients was performed to determine similarities and differences.

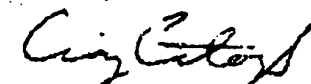
FTIR analysis indicates that chemical changes may have occurred in some of the functional groups found in the coal. Significant differences in the spectral characteristics of IR peaks representing aliphatic CH, carbonyl groups, carbon-oxygen bonding, ethers, ester, alkenes, aldehydes, and in the polycyclic aromatic skeletal structure are noted. An average difference in measured peak areas using FTIR of 20% provides evidence of an overall significant change in chemical composition between the parent materials and fuel product.

TGA results indicate that peak pyrolysis rates of mass loss are significantly different (26.4%) for the fuel product and simple mixture of parent ingredients. This provides additional evidence of significant chemical change in the fuel product.

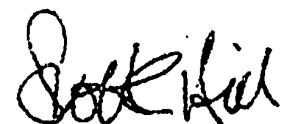
Good correlation between the levels of ash and sulfur for the parent feed and product, obtained from proximate analysis results, suggests that no significant processing or sampling errors likely occurred with the collection of these samples. This indicates that these samples are representative and useful for this analysis.

In summary, FTIR and TGA results of Test #020125-1 parent coal, J-316 chemical agent, and fuel product provide evidence that significant chemical changes have taken place in the fuel product relative to the parent materials.

Sincerely,



Craig Eatough, Ph.D.  
Senior Manager



Scott C. Hill, Ph.D.  
Fuels Analysis Manager

**Combustion  
Resources LLC** 1453 West 820 North  
Provo, UT 84601  
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February 6, 2002

Mr. Robert S. Vogt  
Power Fuel Partners  
MESI Fuel Station #1 LLC  
1150 West 8<sup>th</sup> Street Suite 270  
Cincinnati, OH 45203  
(513) 721-2009

Dear Mr. Vogt:

At your request we have completed analytical testing on samples of parent coal, J-316 chemical change agent, and synthetic fuel product from KWT, Test #020125-2, dated January 25, 2002 for the purpose of identifying significant chemical changes in the product relative to the feed materials. The fuel product was made by combining 0.20% J-316 agent with the parent coal. Portions of the parent coal, chemical agent, and fuel product were examined using Fourier transformed infrared (FTIR) analysis, thermo-gravimetric analysis (TGA), ASTM proximate analysis, and heating value determination. Comparison of analysis results of the product sample and a simple mass-weighted mixture of the parent ingredients was performed to determine similarities and differences.

FTIR analysis indicates that chemical changes may have occurred in some of the functional groups found in the coal. Significant differences in the spectral characteristics of IR peaks representing carbonyl groups, ethers, ester, alkenes, aldehydes, and in the polycyclic aromatic skeletal structure are noted. An average difference in measured peak areas using FTIR of 16% provides evidence of an overall significant change in chemical composition between the parent materials and fuel product with supporting evidence from other test results.

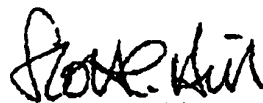
TGA results indicate that peak pyrolysis rates of mass loss are significantly different (36.6%) for the fuel product and simple mixture of parent ingredients. This provides additional evidence of significant chemical change in the fuel product.

Proximate analysis results show that the difference in fixed carbon and volatiles contents between the fuel product and simple ingredients mixture (1.41%) are significantly different. This provides additional evidence of significant chemical change in the fuel product. Good correlation between the levels of ash and sulfur for the parent feed and product, obtained from proximate analysis results, suggests that no significant processing or sampling errors likely occurred with the collection of these samples. This indicates that these samples are representative and useful for this analysis.

In summary, FTIR, TGA, and proximate analysis results of Test #020125-2 parent coal, J-316 chemical agent, and fuel product provide evidence that significant chemical changes have taken place in the fuel product relative to the parent materials.

Sincerely,

Craig Eatough, Ph.D.  
Senior Manager

  
Scott C. Hill, Ph.D.  
Fuels Analysis Manager

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JAMES W. HINEY, ATTORNEY 6-91

68-11148 2581  
560  
60628219  
DATE 5/1/02

PAY TO THE  
ORDER OF

*Commission of Public + Judicial \$ 691.00*  
*One hundred & ninety-one* DOLLARS



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